

Abstract of the Disclosure:

A heating system, a method for heating a deposition reactor or an oxidation reactor, and a reactor utilizing the heating system are particularly suited for low-pressure chemical vapor  
5 deposition or oxidation. A heating system is particularly useful for heating a reactor in which a plurality of wafers is held perpendicularly to the reactant gas flowing direction that is parallel to the longitudinal axis of the reactor, to enable a deposition or oxidation reaction. The heating system  
10 is adapted to change the reactor temperature during the process. In addition, a method heats a reactor to enable a reaction. Preferably, each of a plurality of reactor zones, into which the reactor is divided in a direction parallel to the reactant gas flowing direction, is heated at a different  
15 temperature profile indicating the temperature of this specific zone versus time. Thereby, the in-plane uniformity of deposited or oxidized layers can be largely improved.

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